Notebook Series -- Notebooks by Experimenters Other Than Edison
Navy and Wartime Research Experiments -- Miscellaneous Books
Notebook N-17-00-00.6

This undated notebook was used by Charles T. Dally, probably in July 1917, for notes on experimental work done for the U.S. Navy. Most of the entries pertain to smoke generation to conceal ships. A two-page note from Edison to Dally on preparing the "smoke producing stuff" has been inserted into the beginning of the book. The initial entries by Dally on rosin experiments are related to work in Notebooks by Other Experimenters—Phonograph Record Experiments—C. T. Dally Disc Blanks Composition Books. The front cover is labeled "1445." The pages are unnumbered. Approximately 25 pages have been used.

Daddy

I want about 5 lbs of smoke producing stuff, its the same thing the moving pictures men use for making smoke Jerry Chesslar gave ~~me~~ the formula Bella makes a couple of oz at first to get it just right before you make the big lot of 5 lbs. When its done ~~you~~ pack it well in a box & give to Jimmy Burns to bring here

S

DO - 5452

Flour	22 oz
Powdered Charcoal (fine)	22 oz
Nitrate of Soda	6 oz
Dry Salt (NaCl)	3 oz
Standard Oil Red Engine oil "Cabol"	36 fluid ounces
Water	8 oz

Mix flour + charcoal + add 1/2 of the nitrate of Soda then add the oil mix - then add the water, then add the other 1/2 of the Nitrate of Soda mix well, then dry at 110 to 120 Fahr for several hours, test a little + see if OK before attempting. It lights with a match + burns for a long time -

Resin Mixtures

#1 first run
Rosin 20 g
Sesame Oil 10 % (not sol in alcohol)

#2 Dup of No 1 Except 20% sesame oil

#3 Rosin 20 g
Rosin oil - first run 10 %

#4 Dup of No 3 except 20% Resin oil

#5 - 20g Rosin
Castor oil 10%
Castor oil is good for softening Rosin

#6 - Dup of No 5 Except 20% castor oil

#7 - 20g Rosin
Fish oil - Menhaden - 10%
Menhaden fish oil gives the softest

#8
. Dup of 7 Except 20% Fish oil

#9
Rosin 20 g
Coconut oil 10%
Cocoanut oil gives nest to manhadem
fish oil

#10 -
Sup of 9 Except 20% coconut oil

#11
Rosin 20 g
Camphor 10%

#12
Sup of No-11 Except 20% camphor oil

#13 Rosin 20 grams
Wood tar oil 10%

#14 Rosin 20 grams
Wood tar oil 20%

#15 Rosin 20 g.
Amber oil 10%

#16 Duf of No-15 except 20% oil

#17 Rosin 20 g
Wood tar pitch 10 %

18 Dup of No 17 except 20% pitch

SO 5452

Eff on Smoke pots

No-1 - Chesler's

Flour 22 oz
Powdered Charcoal 22 oz
Nitrate of Soda 6 "
Dry Slaks 3 "
Standard oil Red Engine oil. Cold 3 5/8 fluid oz
water

mix flour & charcoal add 1/2 the nitre and salt then the oil mix then the water mix then the other 1/2 of nitre

then dry at about 110 to 120 stays soft for a week - dont get hard. can light with gas torch not with match

No-12

Same as No 1 Except 1/3 less oil

No-3

Same as No 1 Except put the water in before the oil
dont light with a match

No-4

Flour 16 parts	16
Nitrate Soda Nitrate	16
Sulphur	4
Charcoal	4
Gas tar	10

No 1 very good

No-5

Flour	8
Sulphur	3
Charcoal	3

N. G.

A

250 ✓

100 ✓ good but too quick

38 ✓

38 ✓

95 ✓

150 ✓

40 ✓ $NaClO_3$

711

B

A - 35

tar - 5

good, slow, but hard to start

C

B - 100

Nitr - 50

D

Rosin 45

Sodium chlorate 15

Carbon 10

sulphur 10

D 60

$NaClO_3$ 30

No-6 Nitre 800

Flour 400

Sulphur 150

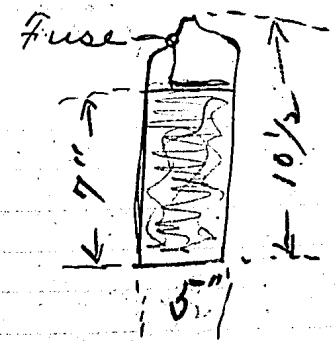
Charcoal 150

Rosin 300

tar 600

This mix takes fire when burnt in the open.

Put in a Iron can close can tight and have ½ opening (charge with 6 lbs) at top of can then sprinkle little of powder on top made of nitre 4, Sulphur 1 + flour 1 part drop fuse through opening to light the mix in can (some smoke also some pressure)



240g in a 2" Pipe Run 13 min

#7

Flour 16
Nitre 8
Sulphur 4
Charcool 3
Rosin 5
tar 5

N G

No-8

Nitre 4
Sulphur 1
flour 1

This is good but not as good as no. 6

No- 9

Wood flour 8
Nitre — 16
Sulphur 3
Charcoal 3
Rosin 18

Burnt a little while then went out
I think it would be good if it had
a little air

No-10

Wood flour 8
Nitre — 16
Sulphur — 3
Charcoal — 12
Rosin — 18

Dont Burn long goes out

No-11

Wood flour 8
Nitre 16
Sulphur - 8
Charcoal - 5
Rosin - 12

Good mix slow burning on small sample

No-12

Dup of No 11 Except run in a 2x6 inch pipe went out after burning 2 min

No-13

Wood flour	6
Nitre	16
Sulphur	3
Charcoal	3
Rosin	8
tar	21

Went out after burning 5 1/4' Burnt

No-14

Wood flour	4
Nitre	16
Sulphur	3
Charcoal	3
Rosin	6
Tar	3

Run for 6 1/2 then stopped 10 sec - then started again and run for 7 min

No-15

Dup of No 14 except put the tar in last instead of wetting wood flour with it

Run for 9 min (all burnt)

#16

Wood flour	4
Nitre	16
Sulphur	3
Charcoal	3
Rosin	6
Tar	14

Burnt 7 min. Not much smoke

#17 Drop of No 16 Expp
used no sulphur
N G Run 2 1/2 min then went out

#18

Wood flour	4
Nitre	18
Sulphur	3
charcoal	3
Rosin	6
tar	14

2 1/2 min then went out think it will go in a big one

No-20

Wood flour 4
Nitre — 20
Sulphur — 3
Charcoal — 3
Rosin — 6
tar — 14

Run 2½ min then
went out

No-21

Sup of No 19 Except added
more tar Mig.

No-21
Dup of 20 Except added
50% more charcoal - 7 G

No - 22
~~Dup of No 18 - Except run~~
~~in a large can~~

Wood flour	3½
Nitre	14
Sulphur	3
charcoal	3
Rosin	6
Tar	14

Run in large can (Gas Generating)
Run 11 min then can seperated in middle at seam / lot of material left

#23

Wood flour	3½
Nitre	19
Sulphur	3
charcoal	3
Rosin	6
tar	14

Run 43 min in 43 min in 6" Pipe ⅞ hole in cap

10 lb 11 oz

#24

Wood flour	3½
Nitre	21
Sulphur	3
charcoal	3
Rosin	6
tar	14

Run 47 min in 6" Pipe ⅝ hole in cap

25-A

Wood fibre 3.5
Nitre 24.5
Sulphur 3.
charcoal 3.
Rosin 6.
tar 14.

25-B

Wood flour 3.5
Nitrate soda 35.
Sulphur 3.
Charcoal 3.
Rosin 6.
tar 14.

25-C

wood 3
Nitre 15.
Rosin 6
tar 10

#25

wood flour 3 1/2
Nitre 22
Sulphur 3
charcoal 3
Rosin 6
tar 14

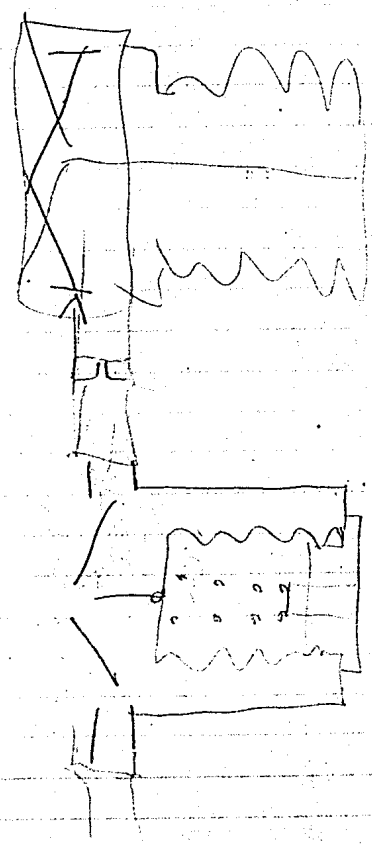
#26

Took 200-cc water
20-g Soda Nitrate
made 205-cc sol- added 40 g
wood flour soaked for 2 hr then
put on filter funnel got back
115-cc liquor then dryed wood flour

took 3 of the above wood
Nitre 15
Rosin 4
tar 8
Mixture to strong shoots out a flame
pretty often

#27 3 Wood soaked in 40% sol of nitre
15 nitre
14 tar

E.	NH_4Cl	35	Very good! slow in
	NH_4NO_3	20	open air
	C	10	S left with
	S	10	ash.
	$NaClO_3$	15	
		90	
F	E 7		Burned to strongly. Did not
	$NaClO_3$ 3		make as much smoke as E.
	10		
G	E 15		Very very good! Very slow in air.
	NH_4NO_3 5		
	20		
H	G 5		Burns more strongly than
	$NaClO_3$ 1		G but not as much smoke.
	6		
I	NH_4Cl	35	Fair. Very very slow
	NH_4NO_3	50	burn [illegible]
	C	5	[illegible]
	S	5	burning.
	NH_4ClO_4	5	
	$NaClO_3$	15	
J	I	100	
	C	5	
	S	5	
	NH_4Cl	10	
	$NaClO_3$	10	



[ITEM(S) FOUND IN BOOK]

No-1

Flour - 308 g

Charcoal 308 g

Nit Soda 84 g - 42

NaCl - 42

glycerin Oil 18 fl oz

water 4 " "

2 1/2 lbs

28
28
308

28

28
1.5
140
125

28
84

84

No. 1 Jerry's

Flour —— 616 g 30-

Powdered charcoal - 616 g 30

Nitrate soda 168 g 8

Dry salt (NaCl) 84 4

standard Oil Begin 100.8-cc 50-cc

water —— 288-cc 14-cc

[ITEM(S) FOUND IN BOOK]

No - 2

Flower 300
charcoal 300
Nitrate Soda 84 - 42
Na Cl - 42
Oil - 12 fluid oz
water 4

36
12
2
24

84
42

No - 3

Flower - 300
charcoal 300 ✓
Nitrate Soda 84
Na Cl 42
water
Oil 12 fluid oz

Dupof No - 2 Except Mixed with water ~~and fluid oil~~ before using oill

[ITEM(S) FOUND IN BOOK]

P was a little oil
.132

P-135

Flour 16
Soda Nitrate 16 (4)
Sulphur 4
Charcoal 4 NB
tar - 10 g

Nitre 4
Sulphur 1 (8)
flour 1
4/5 of 1 gram - good

~~Meal powder~~
Flour 16
Sulphur 3 (5)
Charcoal 3 NB

Mixture of
~~200 g Coal tar~~
~~100 cc Naptha~~

Flour 8
Nitre 16
Sulphur 3 (6) Better than No 8
Charcoal 3
Rosin 6 + 3 g tar

Flour 16
Nitre 8 (7)
Sulphur 4
Charcoal 3 Rosin 5 tar 5

NB
Not as good as 4-6

16
50
800

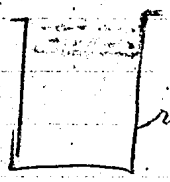
50
8
400

800 - Nitre
400 flour ✓
150 Sulphur ✓
150 charcoal ✓
300 Rosin ✓
620 tar

[ITEM(S) FOUND IN BOOK]

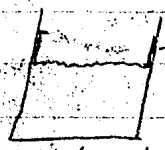
Straw Oil used

No-1
through 10 on 30 mesh
straw oil



as oil heats up it runs down side of can

No-2 Sup of No 1 except lowered sand-wick



sand 11/16 thick
Burnt for 30 min then went out sand was wet with oil 1/2 way throug Burnt oil was below bottom of screen

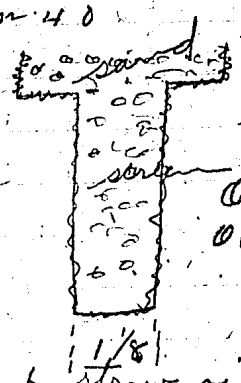
Straw oil used

No-3. Sup of No 2 Except sand packed sand-dont burn 1/2 as good as when loose

No-4 sand through 10 on 20 Mesh Hard to start burning-when it does it seems to suck the oil up and makes it very wet it looks as if I had to much oil in

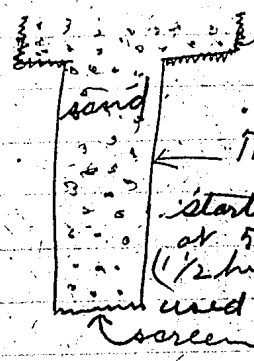
[ITEM(S) FOUND IN BOOK]

No-5 Straw oil sand through 20 on 40



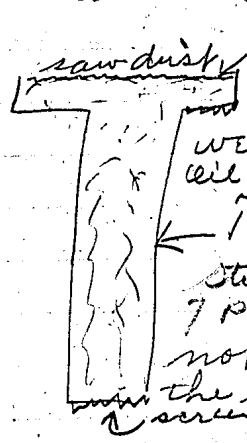
started to Burn 3.30 PM
Flame low at 5 PM
Out at 5.10 PM (1 hr 40)
Oil 1/2 used up

No-6 Straw oil sand through 20 on 40



started to Burn at 5 PM. Out 6.30 (1/2 hrs) 2/3 oil used up

No-7 Fine saw dust + Straw oil



started to Burn 4.35 PM
went out at 9.05
Oil all Burnt (4 1/2 hrs)
still burning at 7 PM but low
not much smoke the last couple of hrs

[ITEM(S) FOUND IN BOOK]

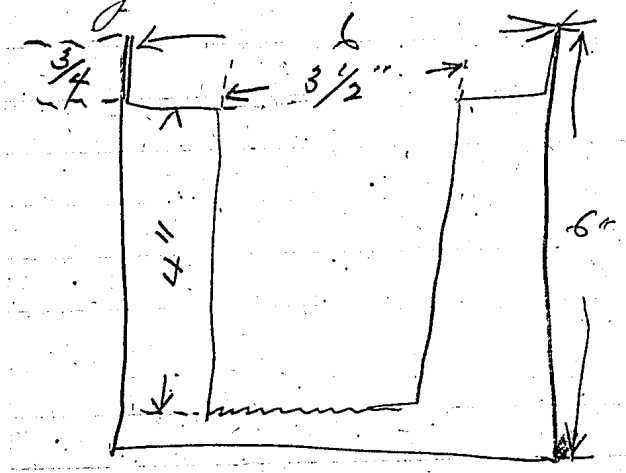
No-8 Dup of No 7 Except no cover on top + less air for combustion.

started 9.38 AM out 1 PM (3½ hrs)

Oil all Burnt

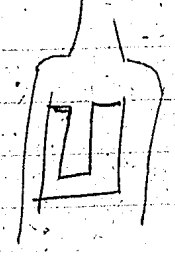
No-9

Dup of No 7 Except Larger



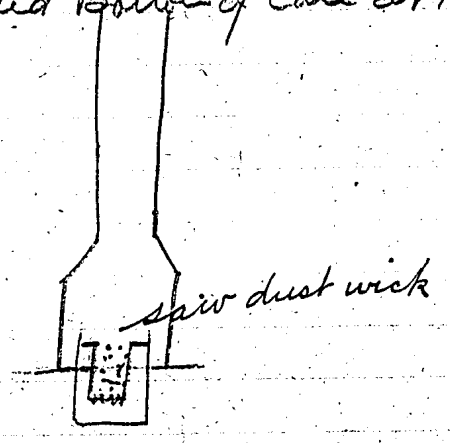
started 4.15 PM

Boiled over at 5.20 PM (1¼ hrs)



[ITEM(S) FOUND IN BOOK]

Cup of No 9 except
changed stock
started 10-40 AM
Melted Bottom of can at 11-08

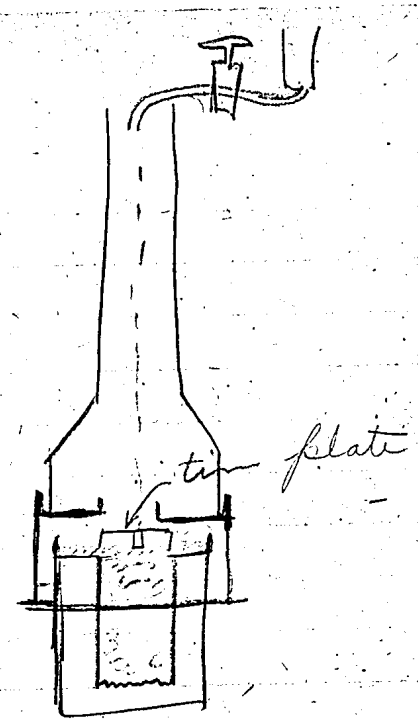


Resoldered bottom on and
set can in water
Started to burn at 2 PM
Burning very low at 8:30 PM
(6½ hrs) Oil used up

No-10 small one
250-cc straw oil
50 g B.S
started 11-15 AM
N. G.

[ITEM(S) FOUND IN BOOK]

#11



Run in 1500 cc straw oil
1 hr 20 min - Made good smoke
(white)

12 Dup of No 11 except
added 150 g Rosin to
1000 c.c. Straw oil
No improvement

[ITEM(S) FOUND IN BOOK]

~~115-cc figure back~~

20 % sol - 200-cc water
40-g. nitrate
made - 215-cc sol
Put in 40 g wood flour soaked 1 hr
got back 115-cc liquor

30 % sol - 200-cc water
60-g. nitrate
made - 220-cc
Put in 40 g wood flour - soaked 1 hr
got 125 cc sol back

40 % sol - 200-cc water
80-g. nitrate
made - 230-cc sol
Put in 40 g wood flour soaked 2 hrs
got back - 130-cc

50 % sol - 200-cc water
100-g. nitrate
made - 240-cc
Put in 40 grams wood powder soaked 2 hrs
dry cal - got back - 130-cc sol